

District, Tanganyika Territory. It differs from adult birds chiefly through its very pronounced greenish tinge. Whilst adult birds are pure steel grey on the upperparts, the juvenile has these parts greyish green. This is particularly distinct on the wing-coverts. Also the top of the head is dark olive green. The underparts are light yellowish grey. The tail-feathers are similar in shape and colour to those of the adult. The iris of the adult bird collected by us was recorded as reddish brown, that of the juvenile as brown.

The adult specimen was collected on exactly the same spot as the juvenile on 23rd August, 1958. The habitat was gallery forest edge at an altitude of approx. 6,800 ft. There was a great deal of bamboo (*Arundinaria*) in the forest, and at clearings near the edges some tall dead trees were prominent. Both the birds were collected when seeking food in such trees, and all sight observations were made in the same habitat. Other birds characteristic of the same habitat were e.g. *Gymnobucco bonapartei cinereiceps* Sharpe, *Erannornis longicauda kivuensis* (Grote) and *Coracina caesia pura* (Sharpe).

Both the collected birds were members of a small family flock (probably the same), containing initially five or six birds. Being very mobile and shy, they were quite difficult to approach and collect, as noted also by Moreau's (1943: 393) collector. A continuous twittering call was recorded.

References:

- Moreau, R. E. 1943. A contribution to the ornithology of the East side of Lake Tanganyika. *Ibis* 85: 377-412.
Praed, C. W. Mackworth & Grant, C. H. B. 1955. Birds of Eastern and North Eastern Africa. African Handb. of Birds, Ser. I, Vol. 2. London.

Geographic and Seasonal Variation in the Black-collared Lovebird, *Agapornis swinderniana*

by DR. KENNETH C. PARKES

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As repeatedly emphasized in Moreau's monograph of the lovebird genus *Agapornis* (*Ibis*, vol. 90, 1948, pp. 206-239), the type species *A. swinderniana* is a little-known bird and thus contrasts with the other members of one of the most popular genera in aviculture. At least two subspecies are usually recognised: the nominate *A.s.swinderniana* (Kuhl) of Liberia (which does not appear to have been collected in the past half century); and *A.s.zenkeri* Reichenow, assigned a range extending from Cameroons to western Uganda. In the Liberian population the black nuchal collar is followed by a second collar of yellow; in all others this second collar is red.

Birds from the Ituri Forest (Belgian Congo) were separated as *A.s.emini* by Neumann (*Bull. Brit. Orn. Club*, vol. 21, 1908, p. 42). This race was accepted by Sclater (*Syst. Av. Aethiop.*, pt. 1, 1924, p. 205) and Peters (*Check-list Bds. of World*, vol. 3, 1937, p. 255). Most recent authors, including Moreau (*op. cit.*), have followed Chapin (*Bull. Amer. Mus. Nat. Hist.*, vol. 75, 1939, p. 240) in synonymizing *emini* with *zenkeri*. It might be noted here that although Mackworth-Praed and Grant (*Bds. of E. and NE. Africa*, vol. 1, 1952, pp. 554-555) do not admit *emini*, they have

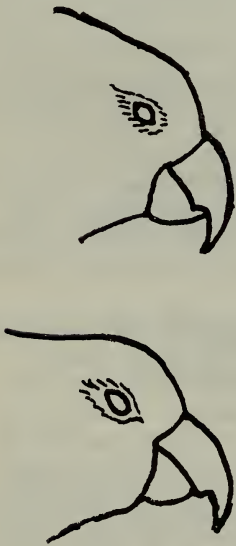
omitted this name from their list of "Names in Sclater . . . which . . . have become synonyms in this work."

The type locality of *A.s.zenkeri* Reichenow is Jaunde (= Yaunde or Yaoundé), Cameroons. Carnegie Museum is fortunate enough to possess a fine series of specimens of *zenkeri* from Edea and Efulen, Cameroons, approximately 90 miles west and 95 miles south-west, respectively, of the type locality. When this series was compared with Chapin's excellent Belgian Congo series at the American Museum of Natural History, it became apparent that *emini* is not a synonym of *zenkeri*, but may be applied to the easternmost populations of the known range of the Black-collared Lovebird. As pointed out by Chapin (*op. cit.*), the species appears to have an interrupted range, as it has not been reported from the Mayombe or Kasai districts. Bannerman (*Bds. Trop. W. Africa*, vol. 2, 1931, p. 414) mentioned specimens from the vicinity of Bolobo, on the middle Congo River, collected by Schoudeten. This is rather of an outlying locality for the species, almost midway between the principal known ranges of *zenkeri* and *emini*, so the subspecific identity of these Bolobo birds should be investigated.

Differences between *zenkeri* and *emini*, which involve both colour and proportions, are not those stressed by the describer of *emini*, which may account for the reluctance of authors to admit the latter race. Neumann believed the upperside of *emini* to be darker than that of *zenkeri*; Ituri birds are, if anything, slightly paler above than most Cameroons birds, but the difference is insignificant. Variations in the shade of blue of the rump and upper tail-coverts are not correlated with geographic distribution. The only valid colour character in the original description of *emini* pertains to the red area behind the black nuchal collar, which averages decidedly more extensive in *zenkeri*. The tendency toward increased red in the latter race is also noticeable ventrally, with the orange-red wash on the breast being both deeper and more extensive in *zenkeri*.

The bill of *emini* is not "much stronger" as claimed by Neumann, but it does average somewhat more abruptly downcurved than that of *zenkeri* (see cut); this character is difficult to evaluate because of variations in preparation technique.

Although there is no size difference between *zenkeri* and *emini*, the specimens examined indicate a pronounced difference in the length of the wing-tip, as expressed by the difference, in millimetres, between the longest primary and longest secondary wing quills. The possibility must be taken into account that this difference may be attributable to variations in preparation technique; however, the



Bills of
Agapornis swinderniana.

Above,
A.s. emini, Gamangui,
Belgian Congo.

Below,
A.s. zenkeri, Biteye,
Cameroons.

findings are consistent in spite of the fact that both series include the products of several collectors. Wing-tip measurements are as follows:

- zenkeri* ♂ : 28, 32, 33, 34.5, 35.5, 35.5, 35.5, 36, 37, 37.5, 38, 38.
emini ♂ : 23, 23, 23.5, 24, 24, 24, 24, 24, 25, 25.5, 25.5, 25.5, 26, 26, 26.5, 28.
zenkeri ♀ : 33.5, 34.5, 35.5.
emini ♀ : 22.5, 23, 23.5, 24, 24, 24, 25.5, 28.

Notes made on labels by collectors strongly suggest the interesting possibility that there may be a seasonal change in the soft-part colours of *Agapornis swinderniana*. The following notes are taken (in some instances, translated) from the labels of adults of all three subspecies and of both sexes combined; nothing on these labels suggests any geographic variation or sexual dimorphism in soft-part colours.

Iris Colour		Foot Colour
dark vinaceous (2)	January	yellow-green (2)
Martin's Yellow (1) yellow (3)	February	oil-green (1) grey (3)
yellow (3)	May	grey (3)
orange-yellow (1)	June	green-grey (1)
yellow (2) pale orange yellow (2) light yellowish brown (2) grey brown (1)	July	greenish grey (3) greyish green (2) olivaceous (2)
red orange yellow (1)	August	greenish grey (1)
orange (1)	September	
gull grey (4)	October	yellow (4)
gull grey (3)	November	yellow (3)

The listed foot colours are particularly suggestive of a seasonal alternation between grey and yellow, passing through greenish intermediate stages. The situation with respect to iris colour is less clear, and attention must be drawn to Chapin's statement (*op. cit.*) that the iris of a wounded bird changed from reddish orange to yellow soon after death. Assuming that the irides of all birds labelled "yellow" were, indeed, orange in life, there is still a suggestion of a seasonal change of iris colour.

In addition to the American Museum of Natural History's specimens, I was able to examine all of the specimens of *Agapornis swinderniana* belonging to the Chicago Natural History Museum. I am indebted to Drs. D. Amadon and A. L. Rand for these courtesies. Localities from which specimens were examined are listed below. These may be found in Chapin's gazetteer of African collecting localities (*Bull. Amer. Mus. Nat. Hist.*, vol. 75B, 1954, pp. 638-738).

A.s.swinderniana Liberia (various localities), 4.

A.s.zenkeri Cameroons: Efulen, 11; Edea, 4; Bitye, 2; Aloum, 1; Ebolowa, 1.

A.s.emini Belgian Congo: Gamangui, 5; Kita Kita, 3; Avakubi, 2; Baraka, 2; Beni, 2; Bengamisa, 1; "Ituri Forest", 1. Uganda: Bwamba District, 7.

A New Race of the Emerald Dove *Chalcophaps indica* (Linnaeus) from India

by AJIT KUMAR MUKHERJEE

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The emerald dove, *Chalcophaps indica* (Linn.) is a beautiful bronze-colored bird of humid evergreen forests of the Orient. The genus is represented by a single species.

Baker (1921) recognized two races of *Chalcophaps indica*, namely, *Chalcophaps indica indica* (Linn.) which is widely distributed throughout the Indian continent and Burma and *Chalcophaps indica robinsoni* Baker, confined to Ceylon. Peters (1937) listed a third race, *Chalcophaps indica maxima* (Hartert), from South Andamans. He remarked (*loc. cit.*, note): "Due to great range of variation in this species and lack of sufficiently long series from all parts of the wide areas it inhabits, I am not sure whether I have recognized too many or not enough races."

On examination of a good material of *Chalcophaps indica* from different parts of India, I am inclined to agree with Peters. I may point out, however, that although individual variation in this species is great, such as in the varying amount of bronze on the back, scapulars and wing coverts, and the vinous red on the breast and abdomen specially in female and young ones, yet in a series they can be resolved into geographical groups on some general characters.

Taking into consideration the size and general coloration of only adult males in fresh winter plumage, I recognize within India, besides the nominate race which occupies the major part of India, one more race which occupies the humid zone, with an annual rainfall of 50-100 inches, of south-western India. Since no name is available for this population, it is here described as

Chalcophaps indica salimalii, new subspecies

Type: B.N.H.S.* Regd. No. 12805; adult male; Jenmalai (ca. 500'), Central Travancore, Kerala; 2nd March 1947; Collector—Sálím Ali.

Material examined: *Chalcophaps indica*: 42 specimens: 22 ♂, 16 ♀, 4 unsexed. WESTERN HIMALAYAS: 2 ♂ Simla, 2 ♂ Mussoorie, 1 ♂, 1 ♀ Dehraun; CENTRAL HIMALAYAS: 1 ♂ Nichlaul; EASTERN HIMALAYAS: 1 ♂, 1 ♀, 2 unsexed, Darjeeling; 2 ♂, 1 ♀, 1 unsexed, Sikkim; ASSAM: 1 ♂, 1 ♀, Tura, 2 ♀ Patherughat, 1 ♀ Balcangiri, 1 ♀ Dibrugarh, 1 ♀ Naga Hills, 1 ♂, 1 ♀ Khasi Hills, 2 ♂, 1 ♀ N. Cachar; MADHYA PRADESH: 2 ♂ Kisli, Ghorela, 1 ♀ Rupjhar; EASTERN GHATS: 1 ♂ Orissa, 2 ♂ Nelliampathy Hills; WESTERN GHATS: 1 ♂ Surat Dangs, 1 ♀ Londa, 1 ♀ Joalbec; KERALA: 2 ♂, 1 unsexed Trivandrum, 1 ♂, 2 ♀ Mynall; 1 ♂ Anjengo; CEYLON: 1 ♂ Higara, 1 ♀ Udugama, South Province.

Description: Very similar to *C.i.robinsoni* but larger. The grey median line running from the head to scapulars present in *robinsoni*, is absent in Kerala birds. Emerald on the upper parts is less pronounced.

* Stands for Bombay Natural History Society.